

Group Practice—A Matrix for Neurology

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THE NATIONAL CONFERENCE on Education in the Neurological Sciences, held in November 1966, was the first step in meeting exigent problems of education of neurologists. In its aftermath, some medical school deans and administrators are beginning to respond to the call for remedial action in respect to goals, content, methods, efficiency, and the supporting structure of medical education (1).

A second conference could deal fruitfully with such topics as specific teaching techniques, the validity and impact of the Millis report (2), the report to the President on medical care prices (3), the Brookings Institution report (4), and other official reports (5-7). Additional discussions might concern enacted or proposed legislation that affects teaching, practice, or research in neurology. The Federal Government is now stimulating the growth of group medical practice in several ways, including a mortgage insurance plan to encourage construction of new group practice buildings or renovation of existing ones. The group practice movement has far-reaching importance for neurology.

As predicted 20 years ago, group practice has expanded at an accelerating rate and will continue to do so (8). The number of medical groups increased threefold between 1946 and 1959, and nearly threefold again between 1959 and 1966.

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At present there are more than 5,000 organized groups. This trend toward group practice, by young physicians especially, is reflected in the results of an inquiry to 459 interns and residents about their future plans—36.2 percent intended to practice in partnerships or groups (9).

The evolution of this new dimension in medical practice concurrent with the emergence of neurology as a self-sufficient specialty has brought these independent developments into confluence. Significantly, group practice provides the means for more efficient use of the time of neurologists, who are, and will be, critically scarce for many years.

One problem is recruitment. An intern or medical student inclined to study neurology may be discouraged by economic considerations and other influences (10). During graduate and undergraduate training, some trainees leave the field (11). After graduate training, some accredited neurologists attempt to practice both psychiatry and neurology, an exercise which is becoming increasingly difficult and which reduces the number of full-time neurologists. Inevitably, the neurological phase of practice suffers.

A young neurologist may assure his financial security by accepting a salaried institutional position, as an increasing number of physicians in all fields are doing. From 1955 to 1962, there was a 44.2 percent increase of physicians in Federal service compared to a 16.7 percent increase in physicians entering nongovernment service.

Perhaps the most significant trend in the organization of medical care in the United

States in recent years has been the rapid increase in the number of physicians practicing in or employed by hospitals—from 8 percent of the profession in 1931 to 22 percent in 1959. Other socioeconomic forces are producing an increase in institutional employment of physicians (12).

Institutional employment tends to reduce freedom of action, limit diversification of experience, and circumscribe professional life. A physician in group practice can preserve personal and professional freedom. Thus, the group practice movement may decelerate the trend toward salaried hospital jobs with their attendant risks (12-14).

Economic considerations sometimes influence neurologists in private practice to overemphasize therapy rather than diagnostic activity. These overly enthusiastic therapists are perhaps abetted by the high costs and the high rate of obsolescence of equipment, plus the rising costs of office space and personnel. Additionally, there is often a correspondence between overtreatment and increased income. However, therapy in the context of continued patient care is an indispensable and rewarding function, and one which strongly appeals to many medical students.

Advantages for Practitioners

Young neurologists sometimes form associations with other specialists, such as psychiatrists, psychologists, and pediatricians, for financial security. They most often join neurosurgeons, and while most combinations are short lived, the combination of neurologist and neurosurgeon is the shortest lived. In contrast, the neurologist in groups in which nearly all specialists are represented and participate equally is a useful and prestigious practitioner operating in a well-defined and harmonious environment. In addition to dispensing patient service more effectively, there are advantages which the neurologist and other specialists in group practice share.

Assured of a salary upon completion of his formal training, the neurologist may not be motivated to prescribe therapy as a fundraising tactic. He contributes only part of the premium of the social security tax and is not indebted for equipment, rent, office personnel, or

business management, including bad debts. Most groups provide a retirement program as well as a deferred income arrangement which offers further financial advantages.

A neurologist in group practice is not needlessly disturbed by the acute illness of a patient who can be attended better by another specialist, and he has time for vacations, sick leave, reading, and meetings without loss of income or practice.

Group practice releases the neurologist from some routine chores, which are assumed by other staff members, including paramedical personnel. Only selected neurological problems, both diagnostic and therapeutic, are referred to him.

In addition, the neurologist has a unique learning opportunity in group practice. Close and continued contact with colleagues in other specialties is similar to the pattern of practice in medical schools and university hospitals. Collaborative study of the patient is found in informal exchanges among physicians, informal staff conferences, or in the notations of other specialists on the patient's chart. Such practices provide one of the few contexts in which the ideal of studying the whole patient, so often glibly pronounced, actually is realized (8). It is an ideal milieu for learning for the student (2, 15), as well as for the expert.

Further opportunity for professional growth is offered through unique and varied resources for research, including data on long term patient care and followup. Complete clinical and family histories are recorded, including drug effects, birth injuries, organic behavior disorders, mental retardation, episodic syndromes and so forth. Since entire families usually enroll, all members are available for the analysis of the psychosocial and genetic aspects of disease, as well as for genetic counseling (16). There is a clerical staff, as well as access to computer services, sparing the neurologist much of the labor of processing data. Social workers and biostatisticians are available for consultation. Other specialists who also have laboratory resources confer without added cost to the patient.

Neurologists have unduly favored basic laboratory research and deprecated clinical studies (17). This attitude has probably discouraged the potential investigator who is less "scientific"

and more clinically oriented. In the context of group practice, unique clinical and epidemiologic material is offered for field research in patient care and community medicine.

The neurologist in group practice also has an unusual opportunity for teaching. He can teach his colleagues to recognize and interpret significant neurological results, thus providing better graduate education than the sporadic conventional courses which have come under severe criticism recently (18-21).

Effect on Teaching Methods

My own experience is that group outpatient practice offers a persuasive argument for the return of preceptor methods of teaching neurology to colleagues, interns, residents, and medical students. That socioeconomic forces have radically changed medical teaching is reflected most dramatically in the changing pattern and decreasing number of medically indigent outpatients (1, 5, 22). The lack of representative examples of disease in ambulatory patients for teaching has forced drastic innovations with varying success (23, 24).

Even in the past, teaching facilities in outpatient services have provided inadequate instruction and have been difficult to staff. As Rammelkamp and Chester point out, assignment to the general medical clinic often fails to excite medical students, house officers, and faculty members (25). Many teachers, both full- and part-time, find the general medical clinic an unattractive assignment and, paradoxically, teaching in outpatient facilities often is neglected in favor of instruction in inpatient facilities. The result is that the trainee is less exposed to representative common problems. Patients admitted to many university hospitals have problems not usually observed by the practicing physician (26, 27).

White (28) and others have found that 750 of every 1,000 adults experience an illness in an average month. Of these, 250 consult a physician, nine are hospitalized, five are referred to another physician, and only one is referred to a university health center. Thus, clinical training based primarily on inpatient services at a university hospital may present a distorted view of the disease encountered in medical practice.

This distortion is particularly common in neurology. In a comprehensive analysis of this growing problem in medical education, Darley and Somers made the following statement (27) :

The principal reason why medical schools failed to develop significant educational programs in the continuing, comprehensive care of unselected patients (unselected to socioeconomic status as well as for clinical entity) is that the medical profession denied the schools access to the kind of population laboratories necessary to this kind of teaching. Thus, the medical schools stayed within their ivory towers, concentrating upon the difficult and unusual case; compartmentalized their programs of service, education and research around the growing constellation of specialism; and isolated themselves from the education of nonphysician categories of health-science personnel. If the educational responsibilities of medical schools are to be broadened to include realistic preparation for comprehensive, continuing care, the errors of the past must be corrected. If this is to take place, changes in attitude and behavior on the part of both the academic and the practicing professions will be involved. The academicians must be willing to qualify themselves and to help qualify practitioners to participate in teaching and research that will take place in practice situations that extend beyond the confines of the university or medical school campus.

The American Board of Psychiatry and Neurology could demonstrate the flexibility urged by Plum (15) and grant credit to trainees for time spent in supervised group practice.

A senior student who works in a preceptor relationship with a clinical neurologist in a group medical center, examining outpatients, taking histories on representative cases, and observing an experienced neurologist approach, analyze, and program the management of each new case of illness will learn with enthusiasm. He may even be inspired to become a neurologist. The effectiveness of this combined teaching and recruiting technique, implementing the principles and philosophy of neurological education expressed by MacKay (29), has been demonstrated to me. Some of the deplorable defects in neurological teaching observed and tabulated by Rose (30) and Poser (31) can be partly nullified by use of this technique.

Advantages for Patients

Among other advantages to the patient, group practice allows more efficient use of the neurologist's limited time and allows him to extend his

services to patients whose income might preclude them from neurological consultation.

This extension of services is submerged by the common illusion that Medicare will underwrite the expenses of most chronic disease. This assumption does not provide for the many patients with neurological disorders who are too young to benefit from this legislation or for the heavy financial burden of chronic disease. Overt as well as hidden costs are met only partly by even the most comprehensive insurance plans (32).

In group clinics, complete services in one place are available for ambulatory patients, thus conserving the patient's time and reducing loss of income or time lost from work.

Modern diagnostic and therapeutic services require skilled personnel to operate expensive and often infrequently used equipment—equipment found only in hospitals or in the offices of large medical groups. Since group practice centers usually contain such equipment, there is less hospitalization of members (3, 4, 6, 33, 34). Patients in the Group Health Association program in Washington, D.C., have 30 percent fewer hospital days than those in the same community treated by private physicians (35).

Neurologists and other specialists have recognized the accelerating trend toward specialization. In fact, public demand for expert services has abetted specialization. This demand may even create depersonalization of the physician-patient relationship (36). This depersonalization of patient care has been used as an argument for solo practice and for restitution of the general practitioner to the central role of patient care, since presumably he cares for the whole patient. Other equally romantic notions have been proclaimed regarding the special powers, position, and indispensability of the solo general practitioner, who often sees many more patients than he can properly examine, treat, or even listen to (12).

There is no reason why the neurologist, or any other specialist, who provides for more time per patient than the general practitioner, cannot investigate, examine, and reflect on the social, psychological, and community aspects of the patient and his disease (37, 38). Such an examination in depth is facilitated in a group by the availability of other specialists and of their

previously recorded observations, which give a nearly complete view of the patient, past and present, including the social, family, and community milieu (14).

The striking disparity between demand and supply of neurological services is expected to persist. Between 1955 and 1964 only 0.98 percent of medical school graduates entered neurology and, as Masland (11) points out, less than half of 1 percent of all certified physicians are certified as neurologists, although at least 6 percent of the total population suffers from neurological impairments, 20 percent of all deaths are caused by neurological disease, and 90 percent of all totally disabled persons receiving social security benefits suffer neurological disorders.

Only a relatively small percentage of the limited number of neurologists are engaged in private practice. As of August 1963, there were only 547 practicing certified neurologists. An additional 139 were engaged in full-time teaching or research, further reflecting the preference of neurologists for the academic setting.

Between 1965 and 1975, the U.S. population is expected to grow about 17 percent. Rising income can be expected to add another 12 percent to effective demand. Demographic changes will also add somewhat to the growth in demand. Medicare will increase the use of physicians' services by the elderly by about 2 percent. For the near future, primary emphasis should be given to mechanisms to increase the efficiency of existing physicians (6, 15, 39). Such changes would be less costly, could be implemented more rapidly, and would have significant impact because they involve all existing practicing physicians. A 4 percent increase in physician productivity in 1966 would have added the equivalent of 11,700 physicians to the supply, more than the annual output of all U.S. medical schools (3).

Conclusions

The reason why relatively few neurologists enter clinical practice deserves more examination, as does the apparent deterioration in clinical ability commented on by Aring (40). A liberalized curriculum for the resident in neurology with more exposure to relevant and

representative clinical problems might be one answer. The objectives, temperament, and motivation of neurologists deserves further study.

Reorganization with greater flexibility in graduate and undergraduate training programs seems inevitable if we are to attract and effectively prepare neurologists to collaborate with fellow specialists in providing high-quality comprehensive medical care.

Trainees must be oriented early to the new team approach, the future pattern of medical practice, beginning in medical school and continuing through residency. Its effectiveness, particularly in the light of the current and growing crisis in medical manpower, has been validated by experience, acknowledged in several official reports, and encouraged and financially supported by Federal legislation. Neurology can readily and profitably accommodate to this major development with substantial benefits for teaching, research, and patient care.

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Public Health Service Staff Appointment

Dr. Edward Ford MacNichol, Jr., former professor of biophysics at the Johns Hopkins University, has been appointed director of the National Institute of Neurological Diseases (NIND) and acting director of the newly established National Eye Institute.

Dr. MacNichol will have overall responsibility for the programs of both Institutes, including research programs at the National Institutes of Health in Bethesda, Md., and in Puerto Rico, research and training grants programs, and collaborative and field research studies.

Since 1949 Dr. MacNichol has been at the Johns Hopkins University. He has taught biophysics, neurophysiology, and electronics and has supervised graduate students and post doctoral training programs. Dr. MacNichol is an internationally recognized authority on vision research. He has published a number of scientific papers on the electrophysiology of vertebrate and invertebrate eyes and on the measurement of pigment in single vertebrate photoreceptors.

In conjunction with his scientific investigations, Dr. MacNichol has developed specialized instruments for biological research, including low-noise high-impedance amplifiers, photo-

stimulators, special displays and signal processing for electrophysiology, and microspectrophotometers for studies of photoreceptors.

Dr. MacNichol received the A.B. degree in physics from Princeton University in 1941. For the next 5 years he was a staff member of the Massachusetts Institute of Technology Radiation Laboratory where he worked on automatic radar range tracking devices, relay radar, and missile guidance systems. In 1947-48, he was a graduate student at the Eldredge Reeves Johnson Foundation of the University of Pennsylvania. At the time, the field of electrophysiology was in a period of rapid growth and Dr. MacNichol was an important contributor to the development of instrumentation which is widely used today. He was awarded the Ph.D. degree from the Johns Hopkins University in 1952.

Dr. MacNichol has served on the U.S. National Committee of Pure and Applied Biophysics, the Armed Forces National Research Committee on Vision, the National Institutes of Health Visual Sciences Study Section, and as chairman of the Board of Scientific Counsellors of the National Institute of Neurological Diseases and Blindness.